

Claims

1. An ink-jet transfer system, characterized in that it comprises or consists of

a) a carrier material,

5 b) an adhesive layer being applied onto said carrier material which comprises dispersed spherical polyester particles of a granular size of less than 30  $\mu\text{m}$ ,

c) a white background layer being applied  
10 onto the hot-melt layer consisting of at temperatures up to 220°C non-fusible elastic plastics which are filled with white inorganic pigments and,

d) at least one ink-receiving layer.

2. The ink-jet transfer system according to  
15 claim 1, characterized in that the molecules of the ink-receiving layer and/or of the binder contained therein are capable of forming chemical, particularly covalent bonds to the dyestuff molecules of the ink.

3. The ink-jet transfer system according to  
20 claim 1 or 2, characterized in that the ink-receiving layer disposes of reactive groups which are capable of forming essentially covalent bonds to the dyestuff molecules, particularly to azo-dyestuff molecules or acid-dyestuff molecules of the ink.

25 4. The ink-jet transfer system according to claim 3, characterized in that the reactive groups are amino groups.

5. The ink-jet transfer system according to one of the claims 1 to 4, characterized in that the ink-  
30 receiving layer contains or consists of a highly porous polyamide pigment with a surface of at least about 15  $\text{m}^2/\text{g}$ , preferably of about 20-30  $\text{m}^2/\text{g}$  and a mean granular size of approximately about 2 to 25  $\mu\text{m}$ , preferably about 2-10  $\mu\text{m}$ , as well as a soluble polyamide as binder and  
35 that the hot-melt contains or consists of a polyester.

6. The ink-jet transfer system according to claim 5, characterized in that the highly porous polyam-

ide pigment is obtained by means of an anionic poly-addition and subsequent controlled precipitation whereby the granular sizes are adjusted by ceasing the precipitation.

5                   7. The ink-jet transfer system according to one of the claims 1 to 6, characterized in that the ratio between the porous pigment and the binder is between about 5:1 and 1:1, preferably 3:1 and 2:1 and particularly preferred 2.4:1.

10                   8. The ink-jet transfer system according to one of the claims 1 to 7, characterized in that the elastic plastics of the white background layer are selected from the group comprising polyurethanes, polyacrylates, polyalkylenes, particularly preferred polyurethanes.

15                   9. The ink-jet transfer system according to one of the claims 1 to 8, characterized in that the pigments in the white background layer are selected from the group comprising  $\text{BaSO}_4$ ,  $\text{ZnS}$ ,  $\text{TiO}_2$ ,  $\text{ZnO}$ ,  $\text{SbO}$ .

20                   10. The ink-jet transfer system according to one of the claims 1 to 9, characterized in that the adhesive layer is a hot-melt layer.

25                   11. The ink-jet transfer system according to claim 10, characterized in that the hot-melt layer contains or consists of a mixture a blend of an ethylene acrylic acid copolymer and polyester particles of a granular size of less than or equal to 20  $\mu\text{m}$ .

30                   12. The ink-jet transfer system according to one of the claims 1 to 11, characterized in that the carrier layer consists of a heat-resistant separating paper, preferably silicon paper.

35                   13. The ink-jet transfer system according to one of the claims 1 to 12, characterized in that it furthermore contains a dispersing additive for organic pigments.

14. Method for the preparation of an ink-jet transfer system according to one of the claims 1 to 13, comprising the following steps:

a) application of an adhesive layer comprising dispersed spherical polyester particles of a granular size of less than 30  $\mu\text{m}$  onto a carrier material whereby a layer thickness of about 30 to 40  $\mu\text{m}$  is adjusted,

5           b) application of a white background layer consisting of at temperatures up to 220°C non-fusible elastic plastics which are filled with white inorganic pigments onto the hot-melt layer,

10           c) application of at least one ink-receiving layer onto said white background layer so that a total thickness of the ink-receiving layer of about 20 to 35  $\mu\text{m}$  is achieved and,

d) letting evaporate the solvent during coating.

15           15. Method according to claim 14, characterized in that two ink-receiving layers are applied.

20           16. Method for printing textile substrates, characterized in that a graphic presentation is printed laterally correct by a computer via a printer on the ink-jet transfer system according to one of the claims 1 to 13 and thereafter is hot iron pressed onto the textile substrate and that the carrier material is coldly removed after cooling down.